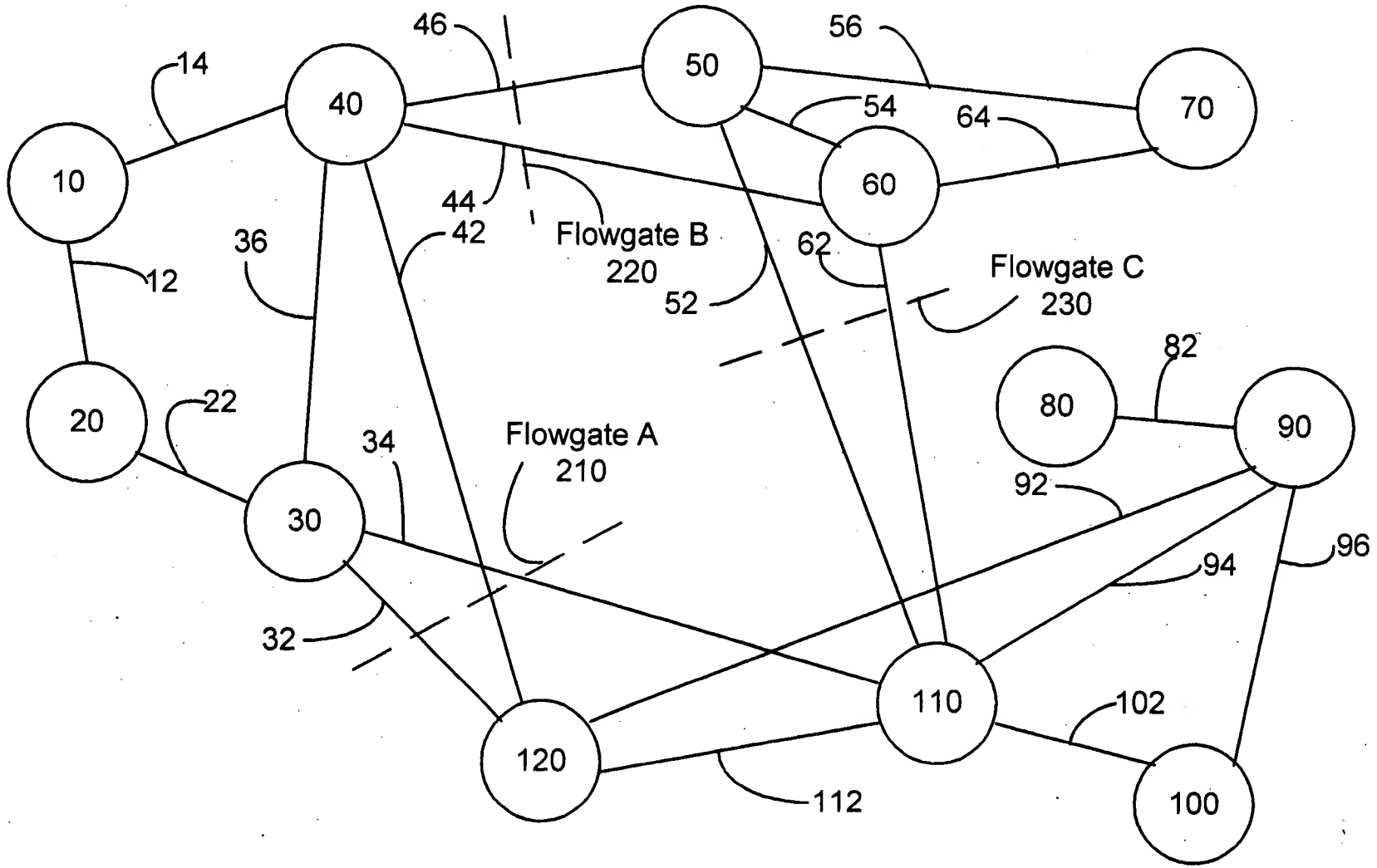

Fig. 1 Prior Art

	Flowgate		
Bus	A	B	C
1	0.70	0.30	0.30
2	0.80	0.20	0.20
3	0.90	0.10	0.10
4	0.60	0.40	0.40
5	0.60	-0.60	0.40
6	0.50	-0.50	0.50
7	0.55	-0.55	0.45
8	0.20	-0.20	-0.20
9	0.05	-0.05	-0.05
10	-0.01	0.01	0.01
11	0.00	0.00	0.00
12	-0.05	0.05	0.05

Fig. 2 Prior Art

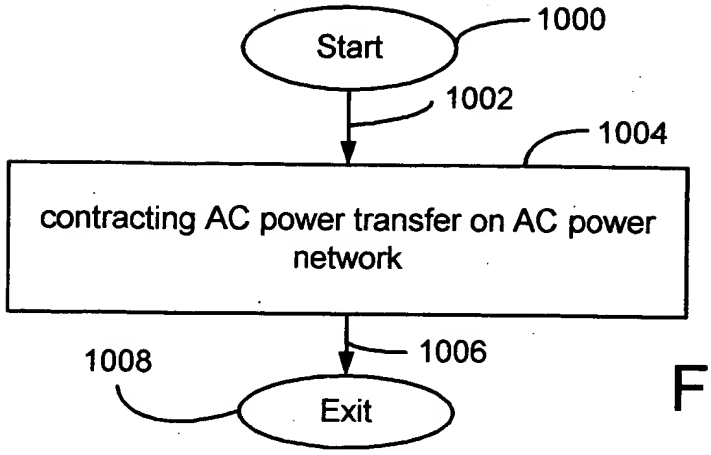

Fig. 3

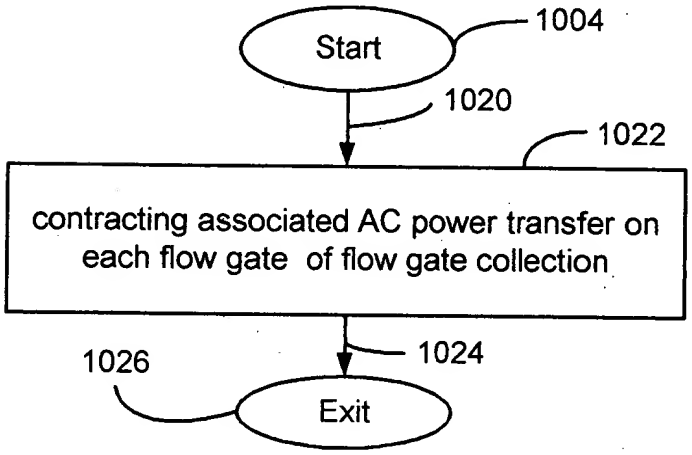

Fig. 4

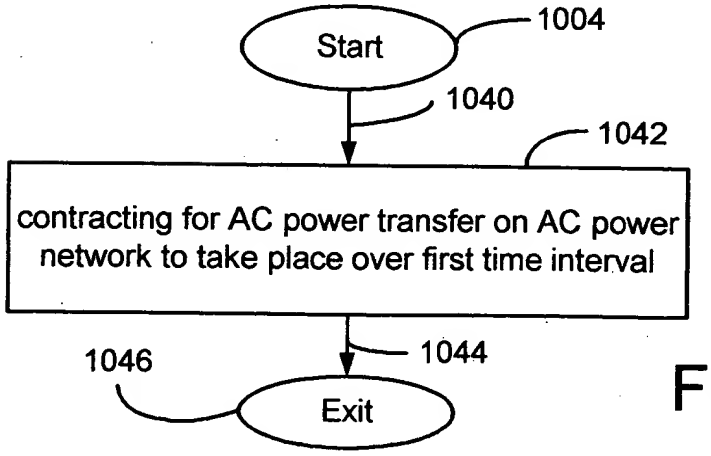

Fig. 5

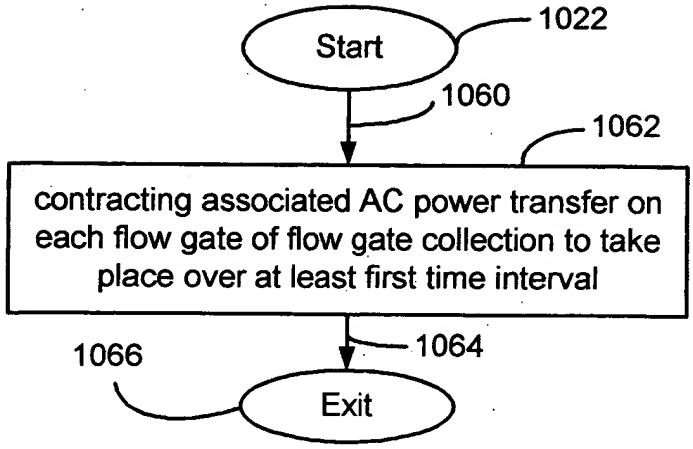

Fig. 6

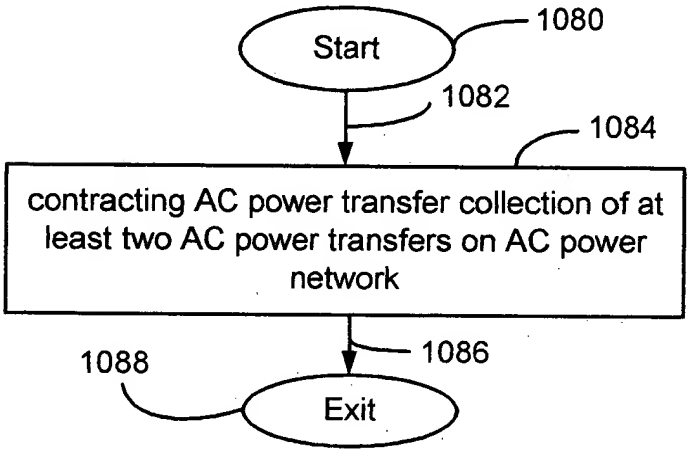

Fig. 7

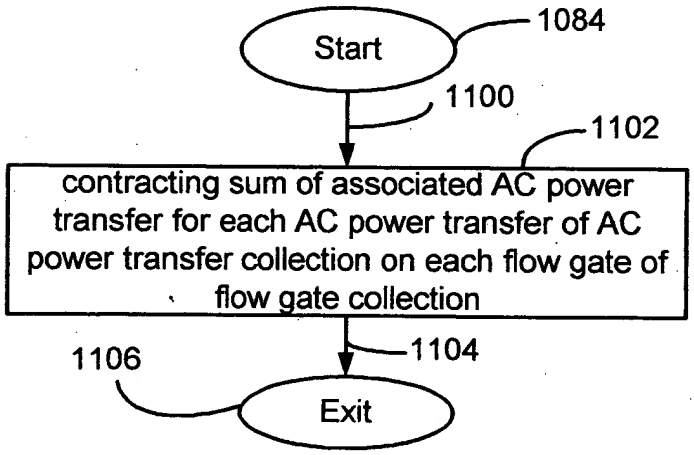

Fig. 8

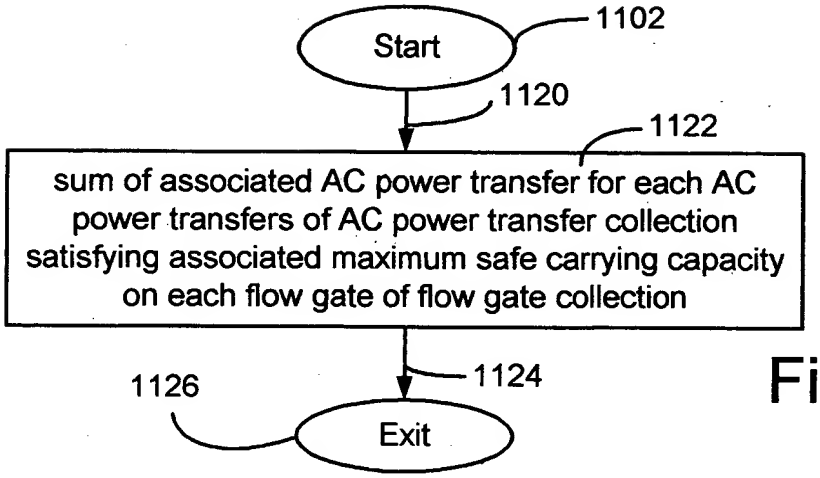

Fig. 9

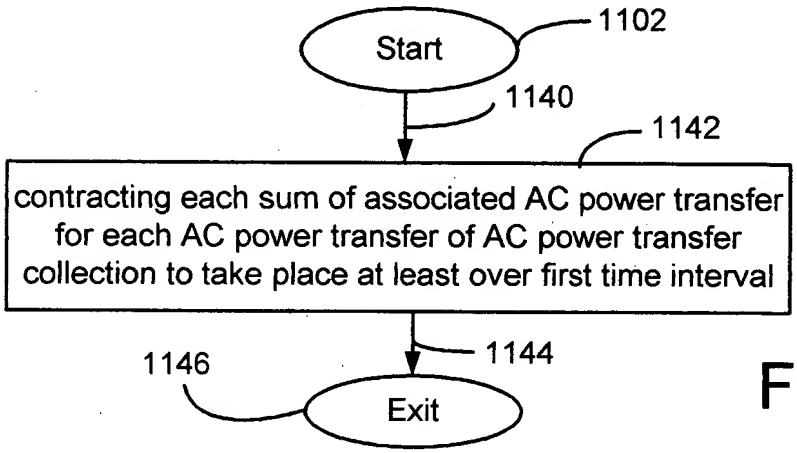

Fig. 10

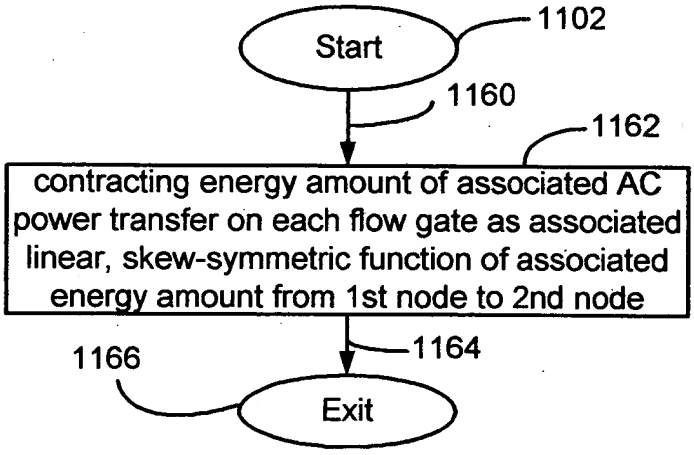

Fig. 11

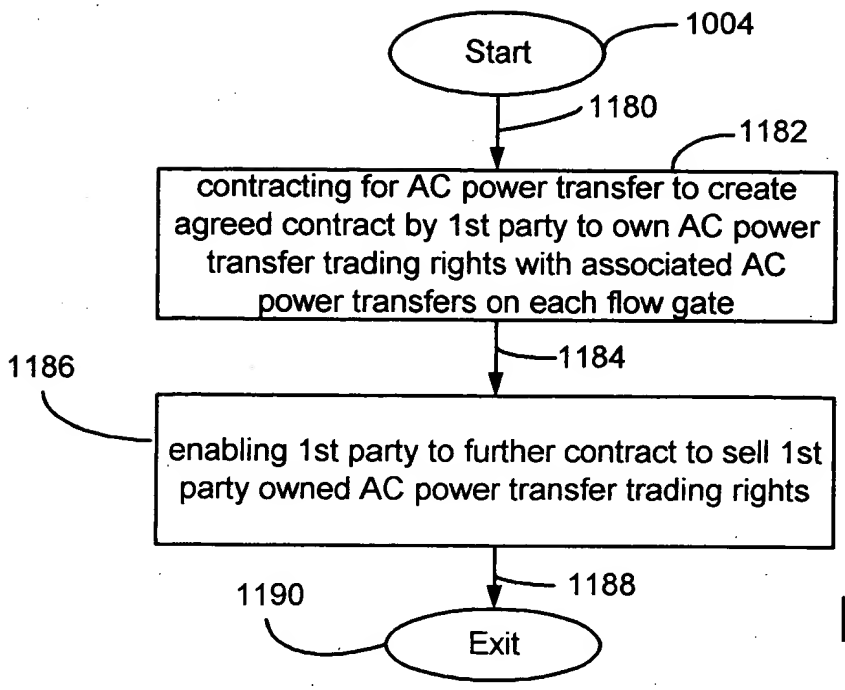
Start
1004
1180
1182
contracting for AC power transfer to create agreed contract by 1st party to own AC power transfer trading rights with associated AC power transfers on each flow gate
1184
1186
enabling 1st party to further contract to sell 1st party owned AC power transfer trading rights
1188
1190
Exit

Fig. 12

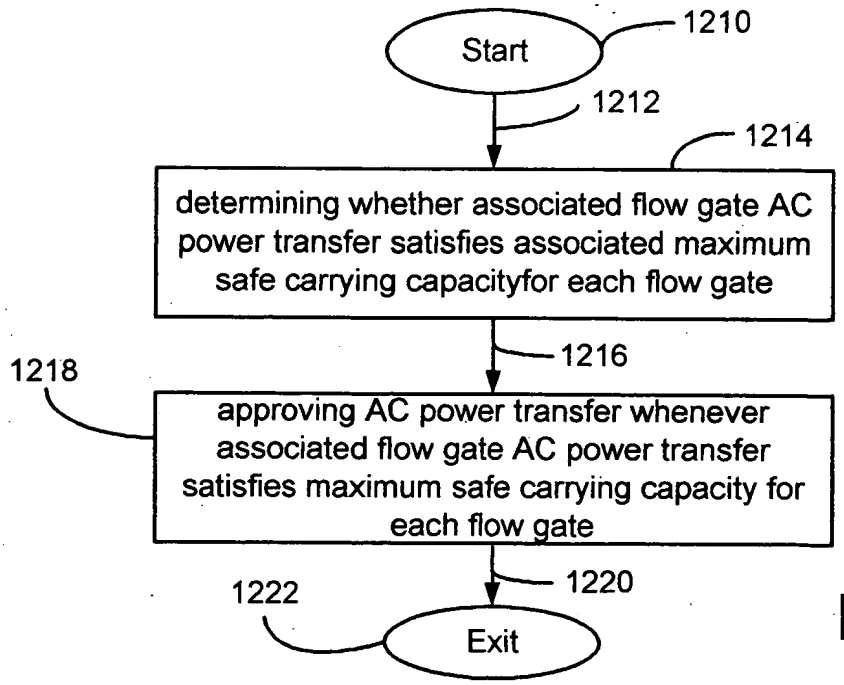
Start
1210
1212
1214
determining whether associated flow gate AC power transfer satisfies associated maximum safe carrying capacityfor each flow gate
1216
1218
approving AC power transfer whenever associated flow gate AC power transfer satisfies maximum safe carrying capacity for each flow gate
1220
1222
Exit

Fig. 13

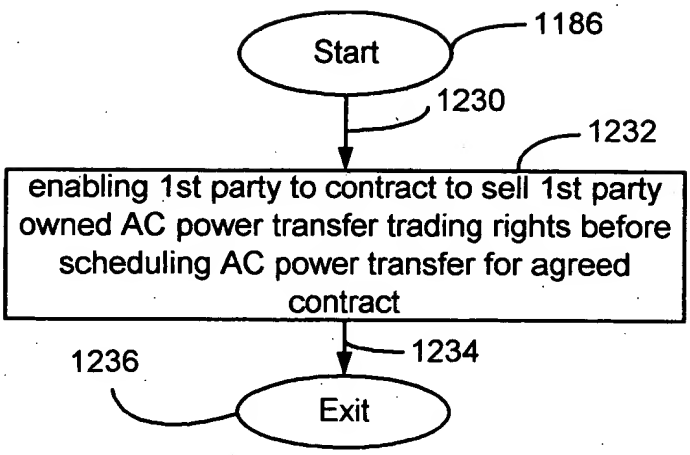

Fig. 14

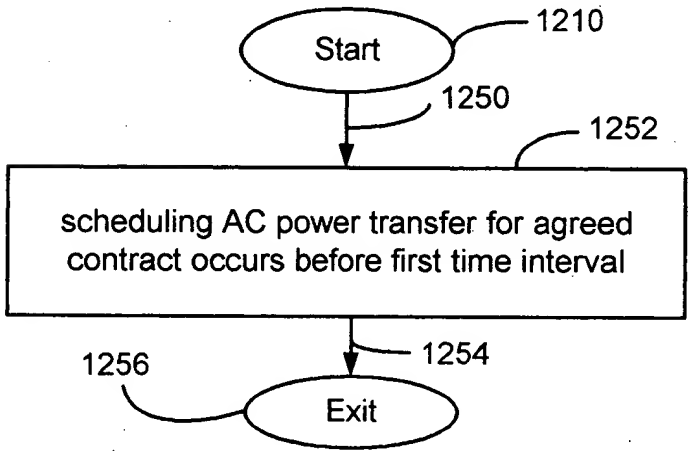

Fig. 15

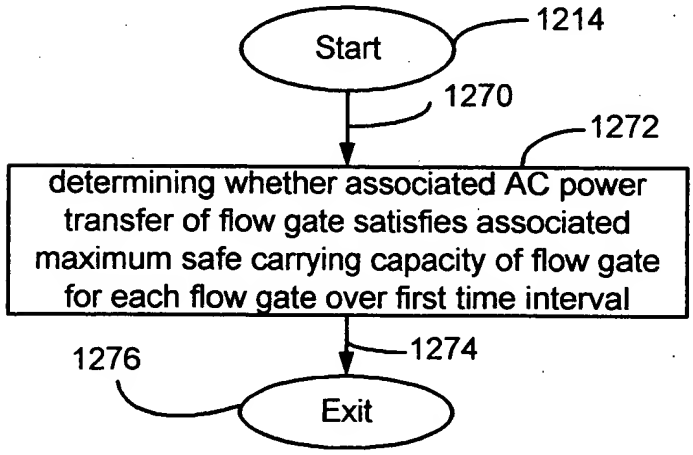

Fig. 16

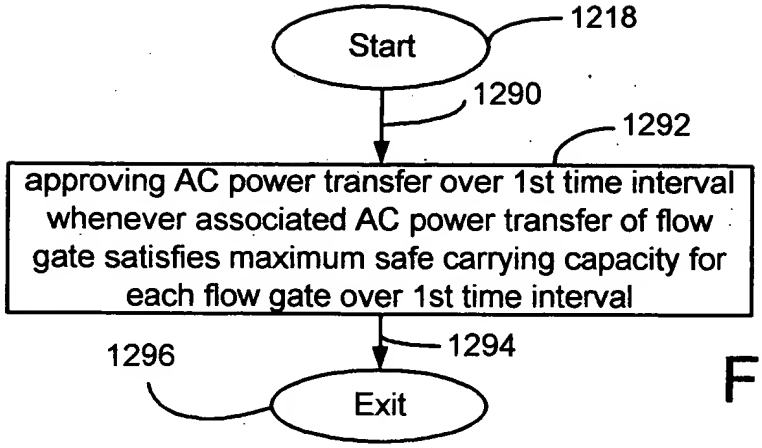

Fig. 17

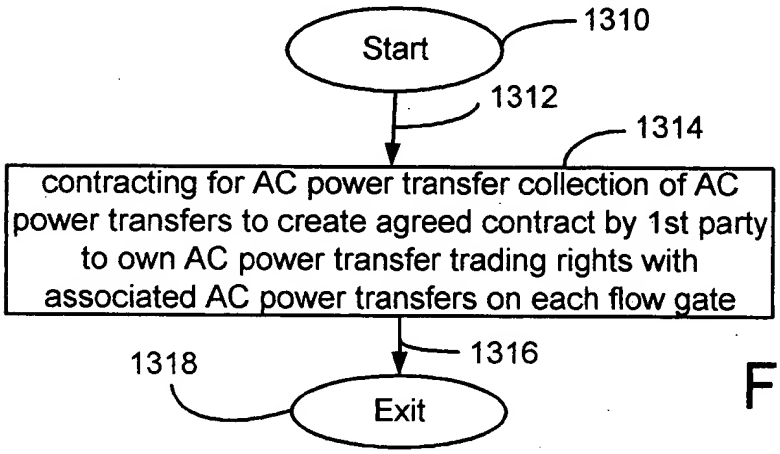

Fig. 18

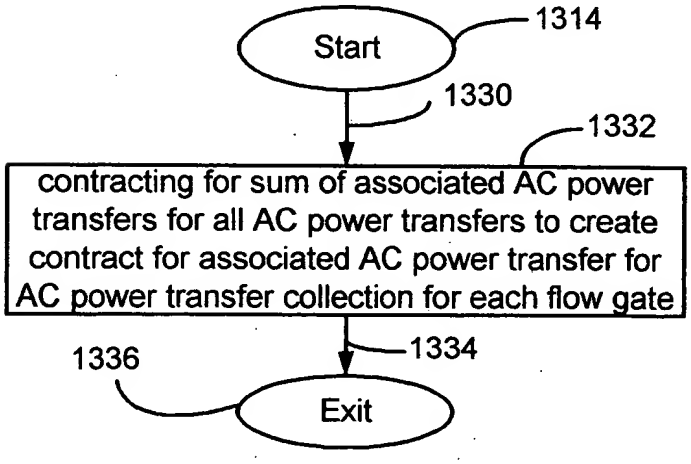

Fig. 19

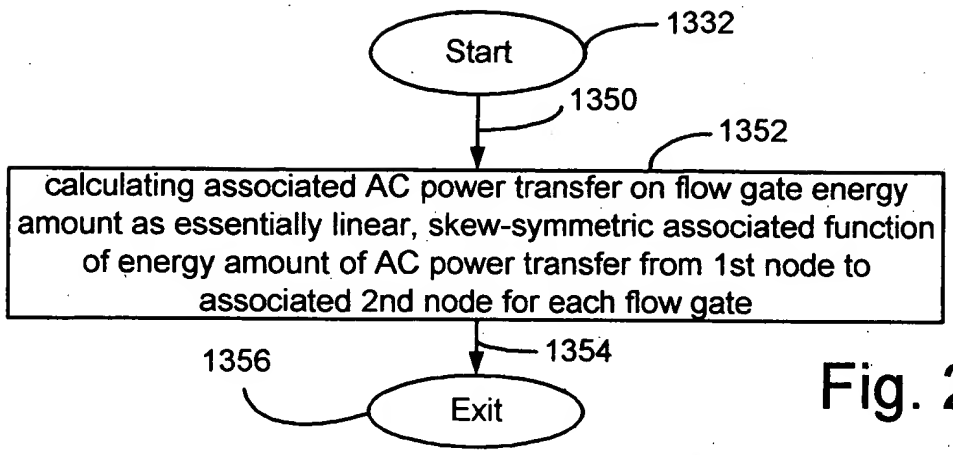

Fig. 20

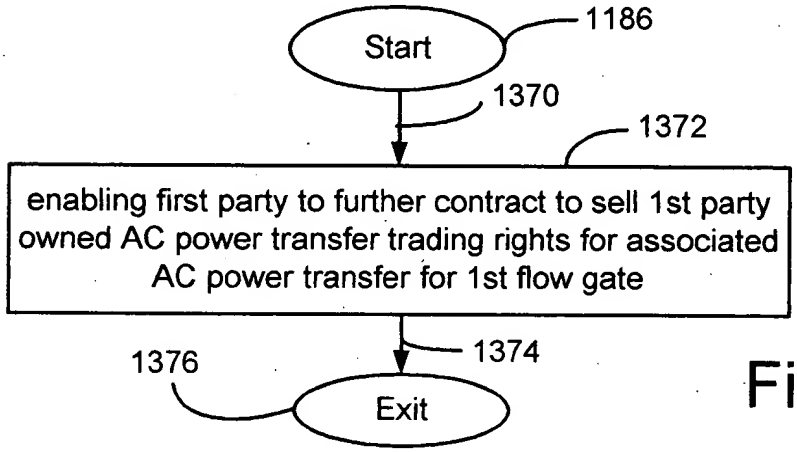

Fig. 21

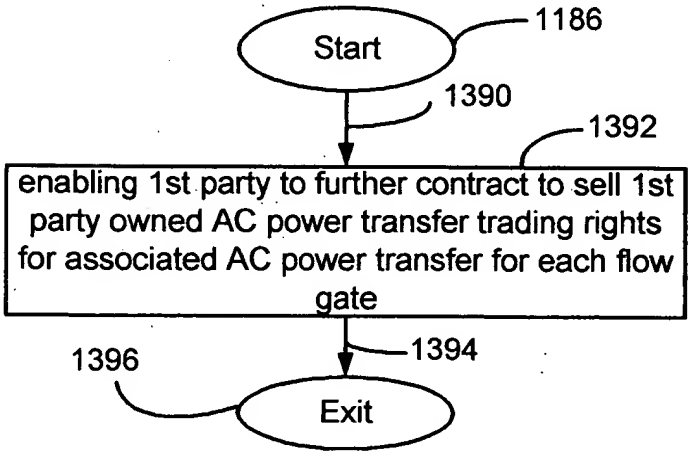

Fig. 22

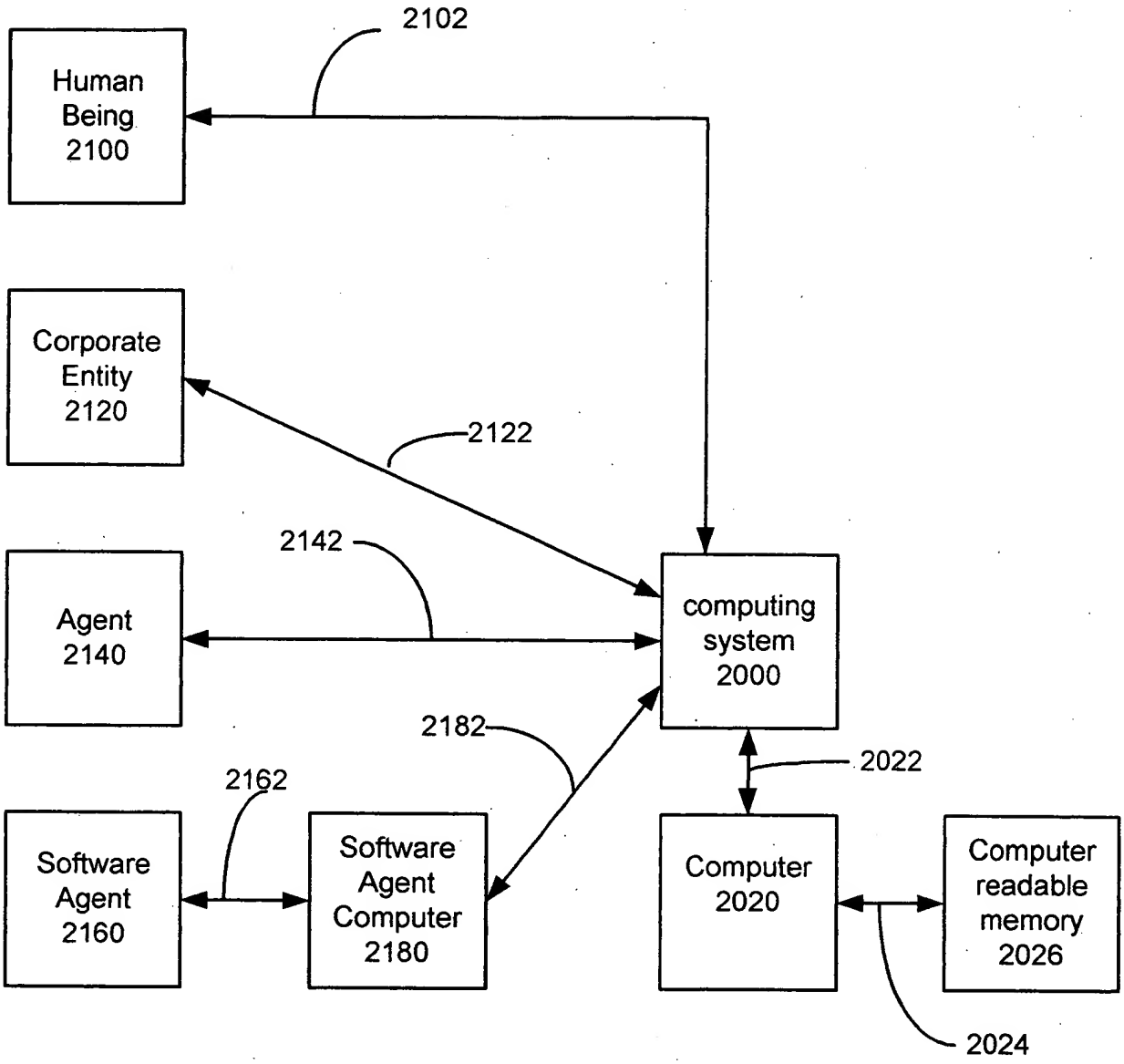
2102
Human Being 2100
Corporate Entity 2120
2122
2142
Agent 2140
computing system 2000
2182
2022
2162
Software Agent 2160
Software Agent Computer 2180
Computer 2020
Computer readable memory 2026
2024

Fig. 23

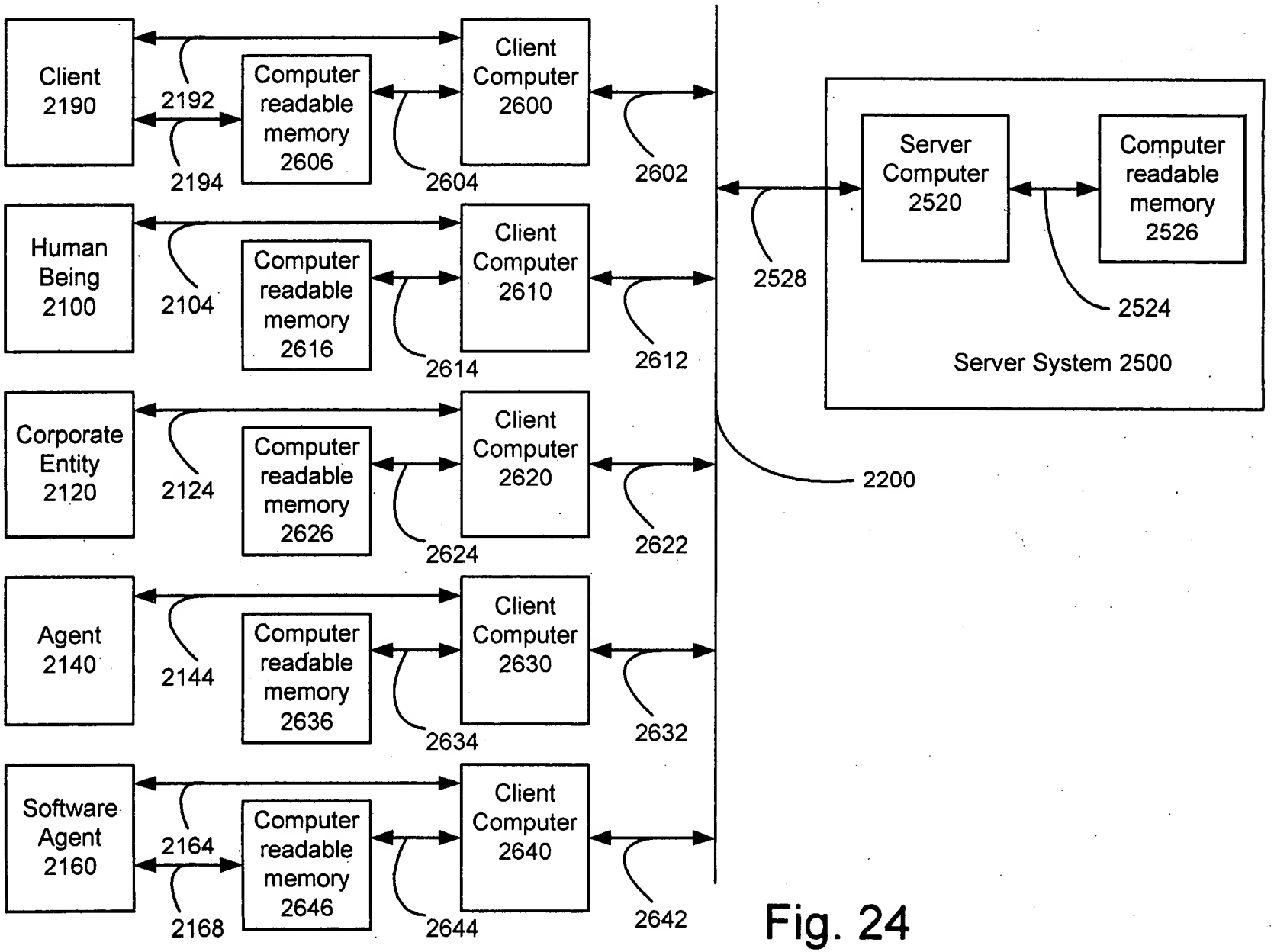
Client 2190
2192
2194
Computer readable memory 2606
Client Computer 2600
2602
2604
Human Being 2100
2104
Computer readable memory 2616
Client Computer 2610
2612
2614
Corporate Entity 2120
2124
Computer readable memory 2626
Client Computer 2620
2622
2624
Agent 2140
2144
Computer readable memory 2636
Client Computer 2630
2632
2634
Software Agent 2160
2164
2168
Computer readable memory 2646
Client Computer 2640
2642
2644
2528
Server Computer 2520
Computer readable memory 2526
2524
Server System 2500
2200

Fig. 24

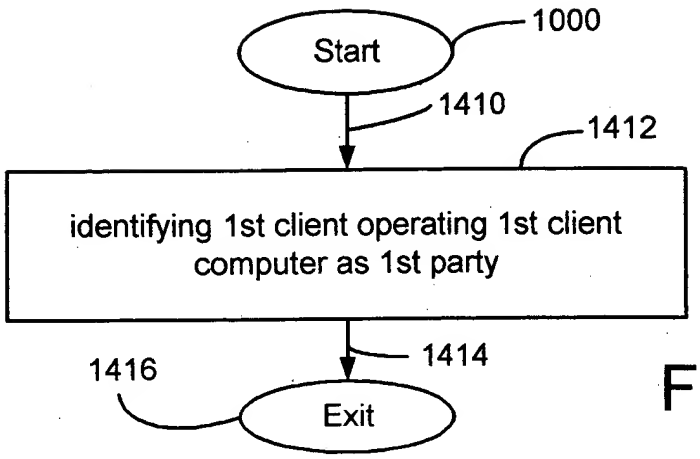

Fig. 25A

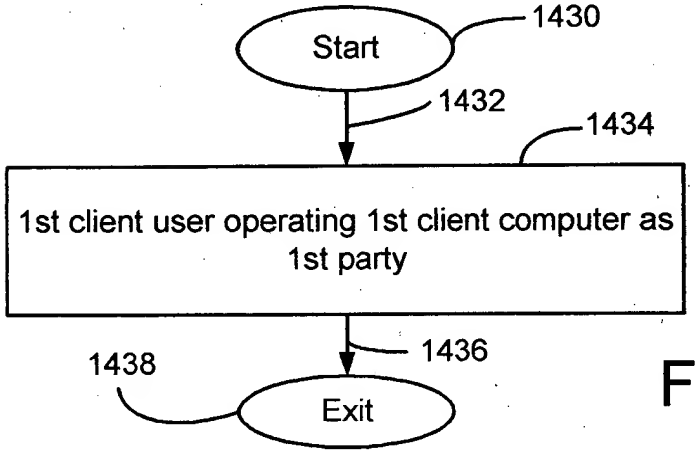

Fig. 25B

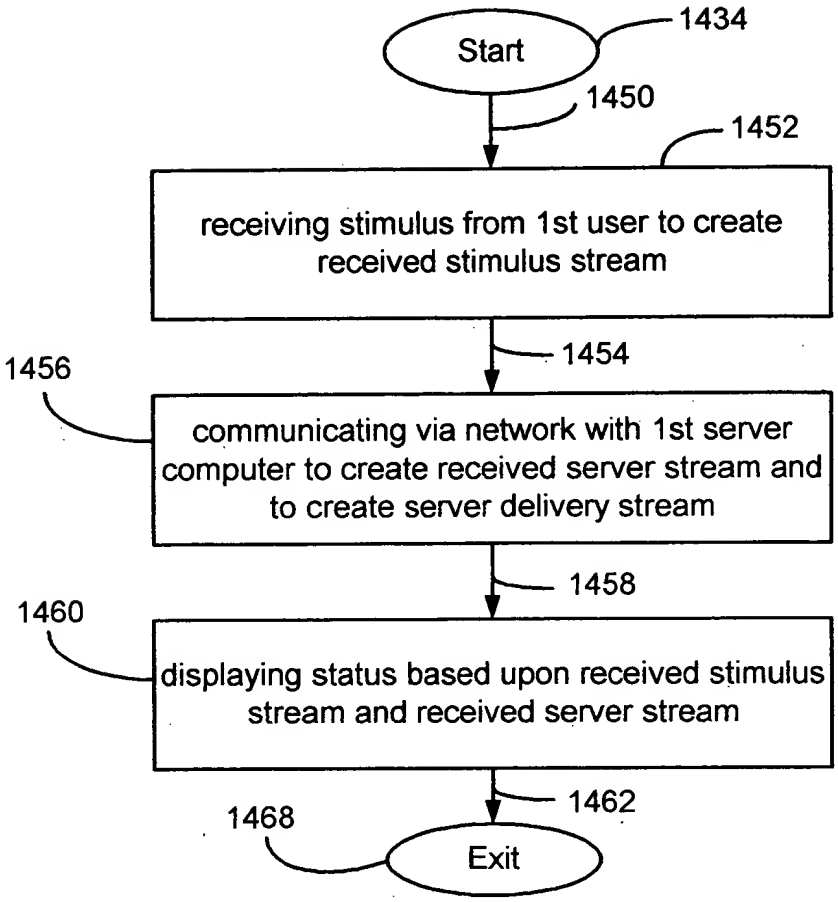
Start
1434
1450
1452
receiving stimulus from 1st user to create received stimulus stream
1454
1456
communicating via network with 1st server computer to create received server stream and to create server delivery stream
1458
1460
displaying status based upon received stimulus stream and received server stream
1462
1468
Exit

Fig. 26

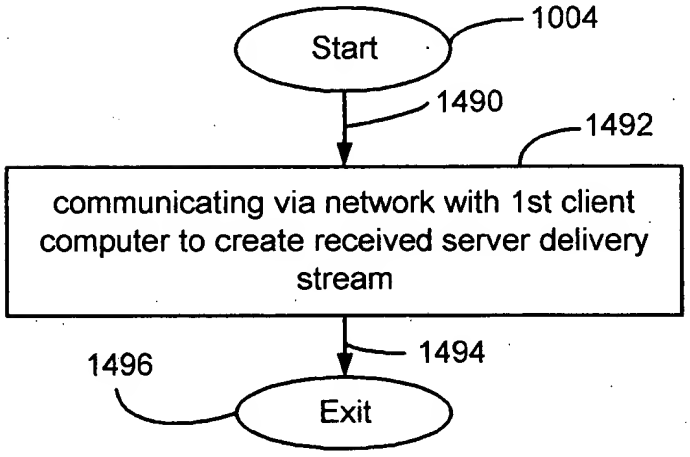
Start
1004
1490
1492
communicating via network with 1st client computer to create received server delivery stream
1494
1496
Exit

Fig. 27

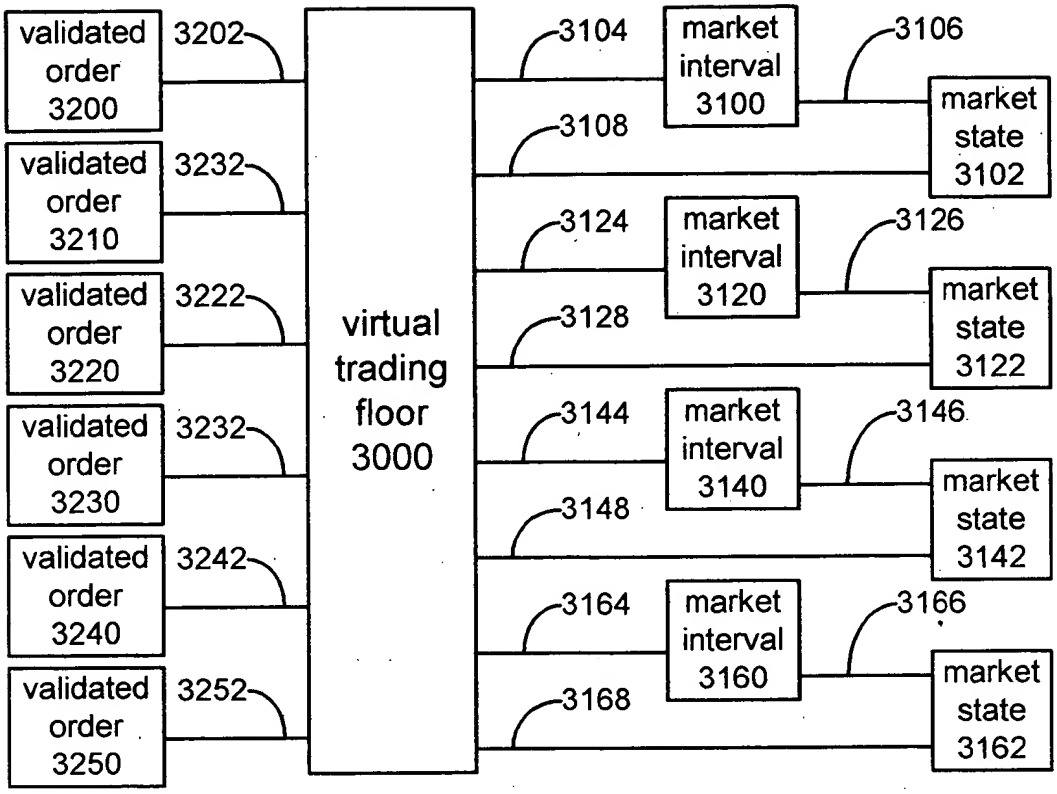
validated order 3200
validated order 3210
validated order 3220
validated order 3230
validated order 3240
validated order 3250
3202
3232
3222
3232
3242
3252
virtual trading floor 3000
3104
3108
3124
3128
3144
3148
3164
3168
market interval 3100
market interval 3120
market interval 3140
market interval 3160
3106
3126
3146
3166
market state 3102
market state 3122
market state 3142
market state 3162

Fig. 28

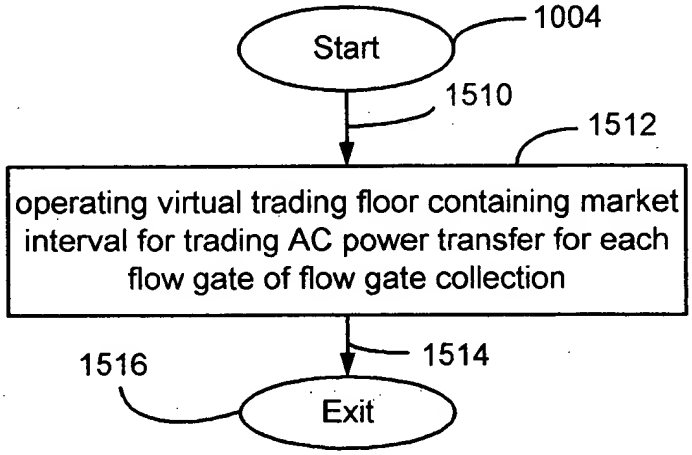
Start
1004
1510
1512
operating virtual trading floor containing market interval for trading AC power transfer for each flow gate of flow gate collection
1514
1516
Exit

Fig. 29

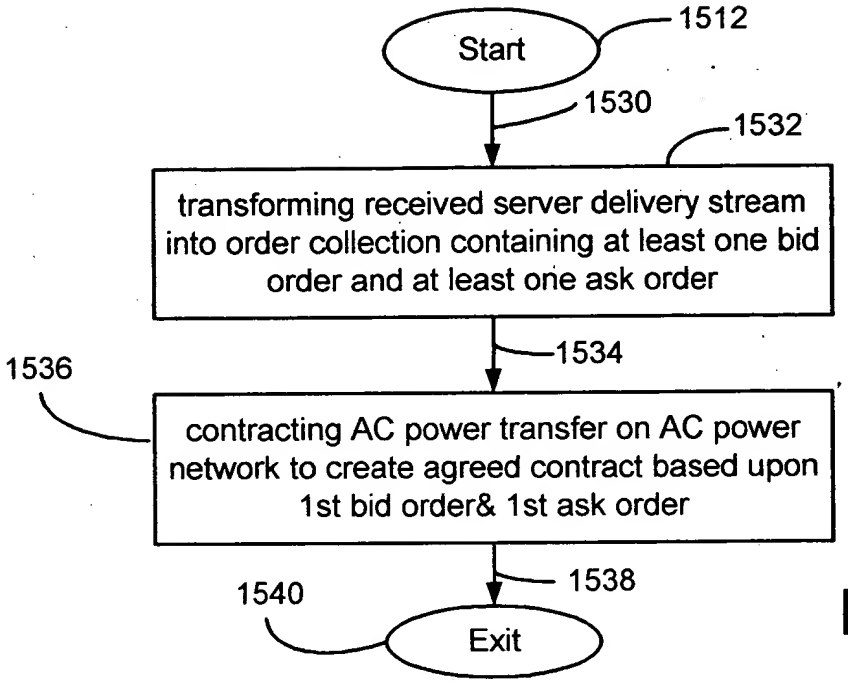
Start
1512
1530
1532
transforming received server delivery stream into order collection containing at least one bid order and at least one ask order
1534
1536
contracting AC power transfer on AC power network to create agreed contract based upon 1st bid order& 1st ask order
1538
1540
Exit

Fig. 30

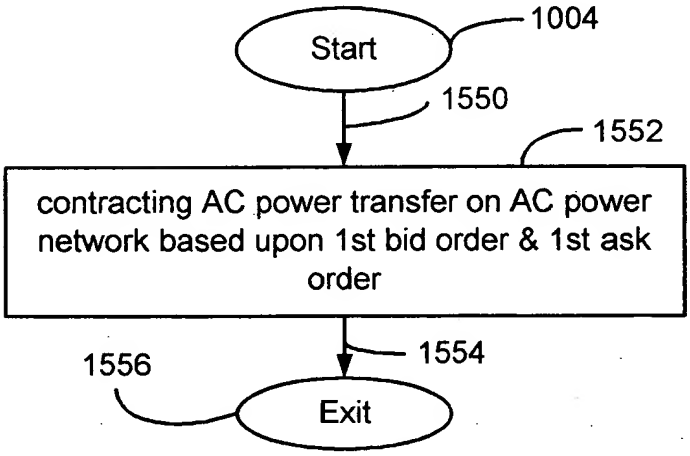
Start
1004
1550
1552
contracting AC power transfer on AC power network based upon 1st bid order & 1st ask order
1554
1556
Exit

Fig. 31

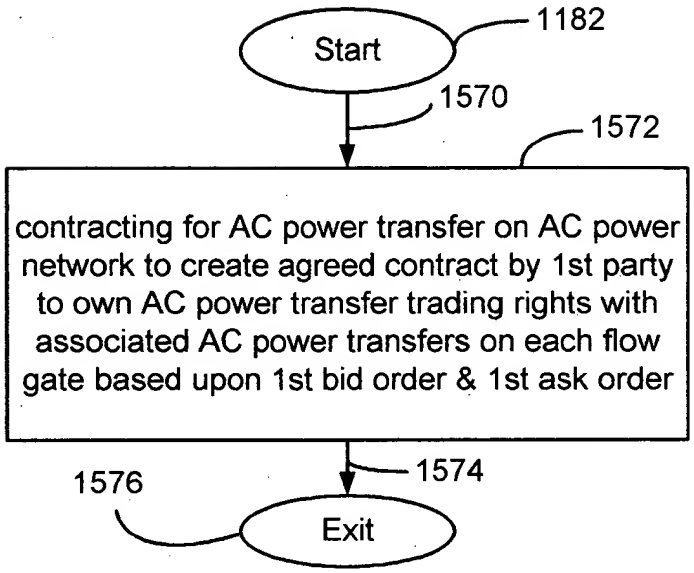
Start
1182
1570
1572
contracting for AC power transfer on AC power network to create agreed contract by 1st party to own AC power transfer trading rights with associated AC power transfers on each flow gate based upon 1st bid order & 1st ask order
1574
1576
Exit

Fig. 32

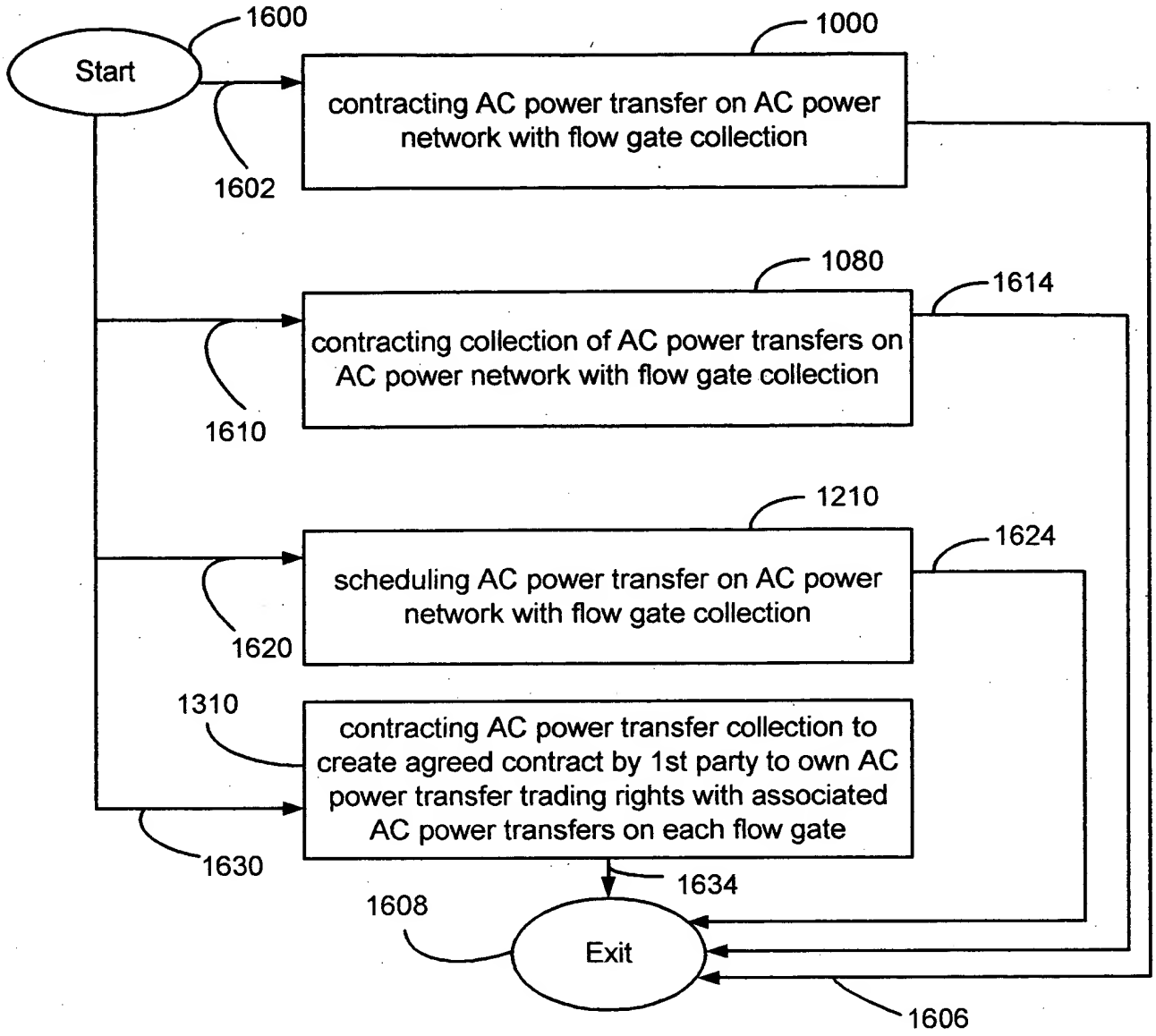
Start
1600
1602
1000
contracting AC power transfer on AC power network with flow gate collection
1080
1610
contracting collection of AC power transfers on AC power network with flow gate collection
1614
1210
1620
scheduling AC power transfer on AC power network with flow gate collection
1624
1310
1630
contracting AC power transfer collection to create agreed contract by 1st party to own AC power transfer trading rights with associated AC power transfers on each flow gate
1634
1608
Exit
1606

Fig. 33A

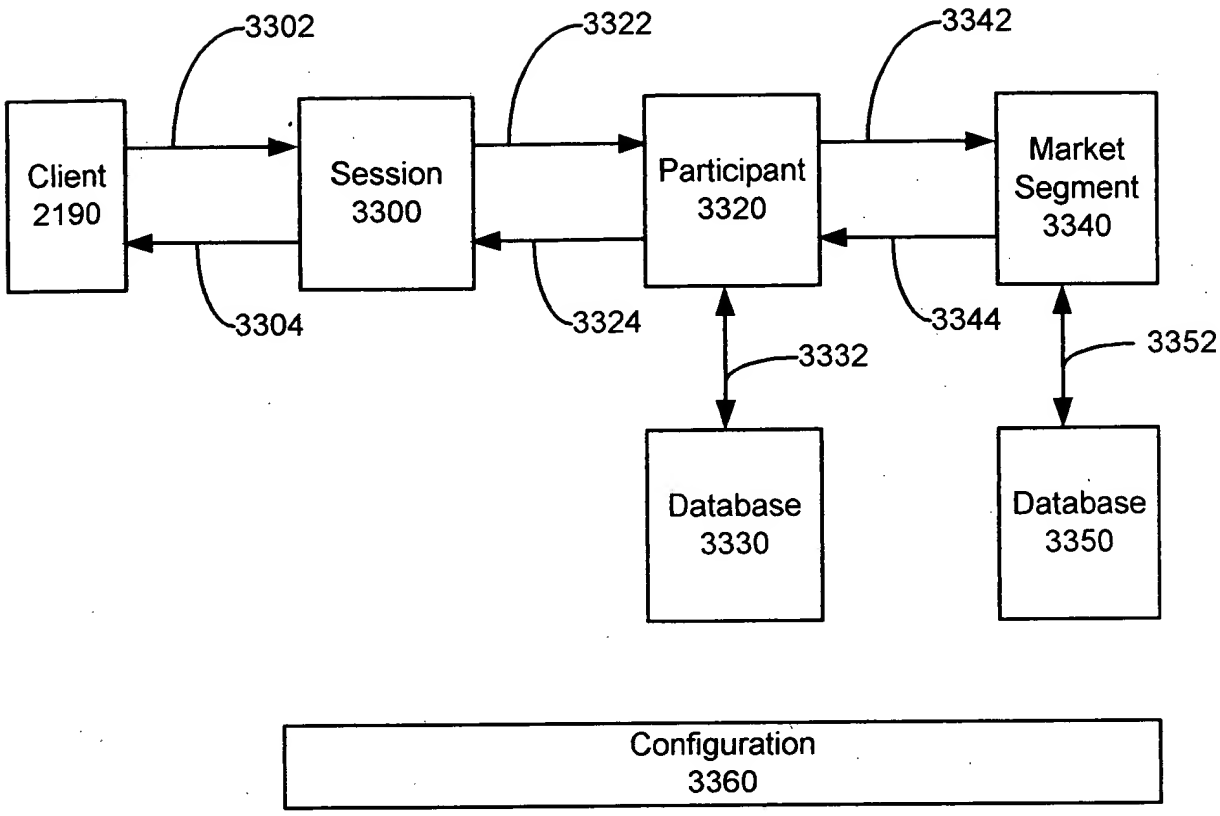
3302
3322
3342
Client
2190
Session
3300
Participant
3320
Market
Segment
3340
3304
3324
3344
3332
3352
Database
3330
Database
3350
Configuration
3360

Fig. 33B

Docket No. 1588.1520

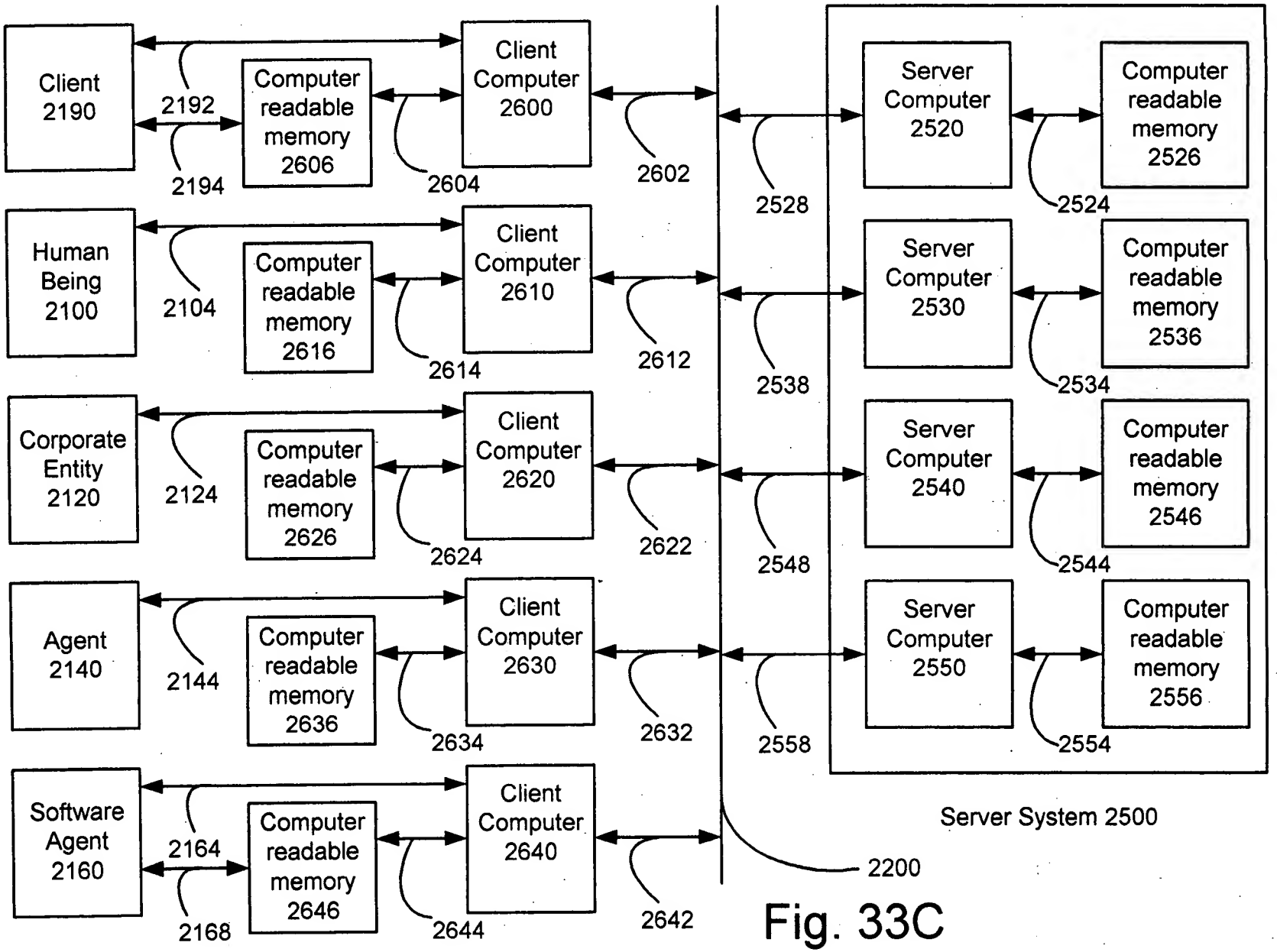

Fig. 33C

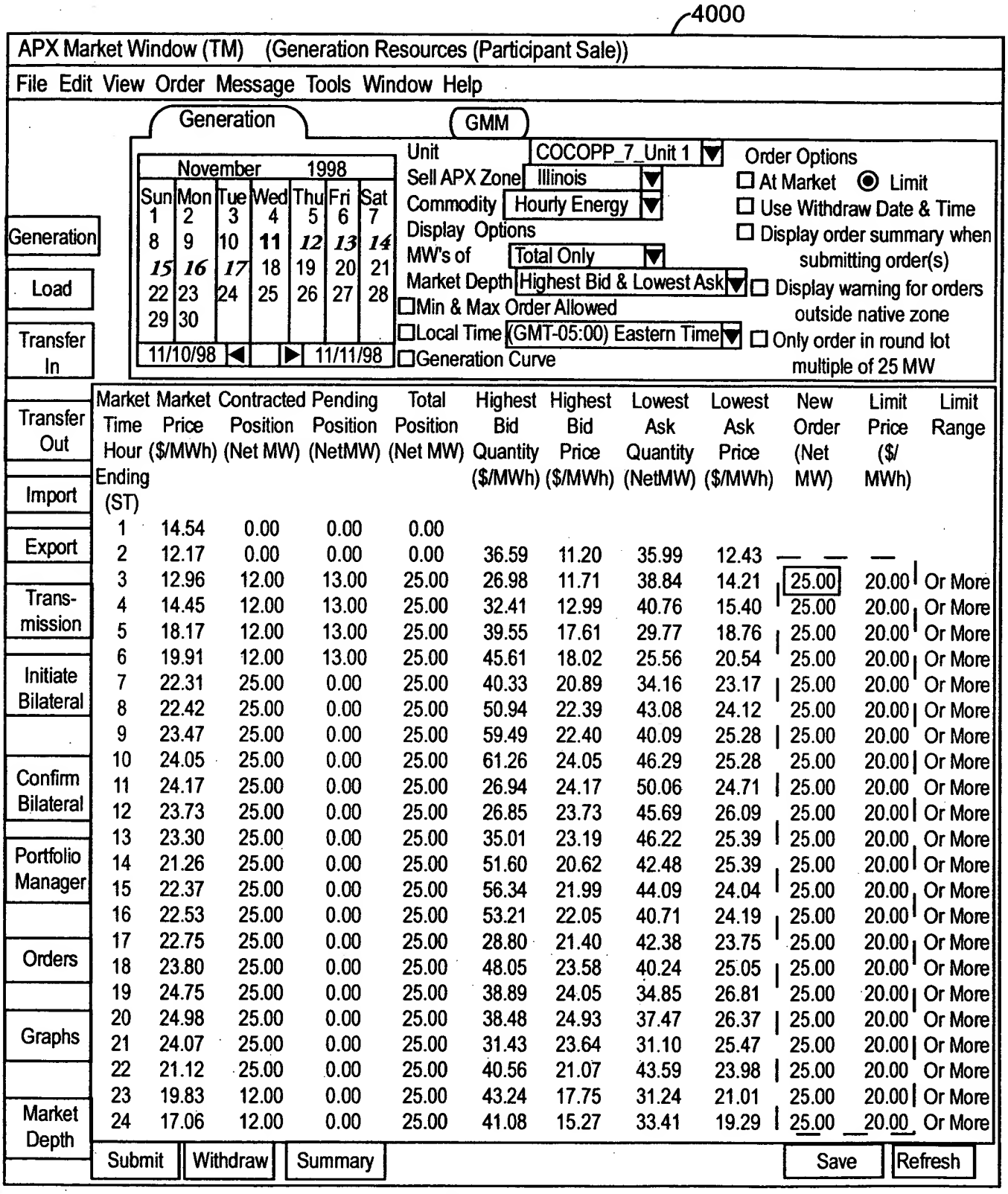
4000
APX Market Window (TM) (Generation Resources (Participant Sale))
File Edit View Order Message Tools Window Help
Generation
GMM
November 1998
Sun Mon Tue Wed Thu Fri Sat
1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30
11/10/98
11/11/98
Unit COCOPP_7_Unit 1
Sell APX Zone Illinois
Commodity Hourly Energy
Display Options
MW's of Total Only
Market Depth Highest Bid & Lowest Ask
Min & Max Order Allowed
Local Time (GMT-05:00) Eastern Time
Generation Curve
Order Options
At Market
Limit
Use Withdraw Date & Time
Display order summary when submitting order(s)
Display warning for orders outside native zone
Only order in round lot multiple of 25 MW
Generation
Load
Transfer In
Transfer Out
Import
Export
Trans-mission
Initiate Bilateral
Confirm Bilateral
Portfolio Manager
Orders
Graphs
Market Depth
Market Time Hour Ending (ST)
Market Price ($/MWh)
Contracted Position (Net MW)
Pending Position (NetMW)
Total Position (Net MW)
Highest Bid Quantity ($/MWh)
Highest Bid Price ($/MWh)
Lowest Ask Quantity (NetMW)
Lowest Ask Price ($/MWh)
New Order (Net MW)
Limit Price ($/MWh)
Limit Range
1 14.54 0.00 0.00 0.00
2 12.17 0.00 0.00 0.00 36.59 11.20 35.99 12.43
3 12.96 12.00 13.00 25.00 26.98 11.71 38.84 14.21 25.00 20.00 Or More
4 14.45 12.00 13.00 25.00 32.41 12.99 40.76 15.40 25.00 20.00 Or More
5 18.17 12.00 13.00 25.00 39.55 17.61 29.77 18.76 25.00 20.00 Or More
6 19.91 12.00 13.00 25.00 45.61 18.02 25.56 20.54 25.00 20.00 Or More
7 22.31 25.00 0.00 25.00 40.33 20.89 34.16 23.17 25.00 20.00 Or More
8 22.42 25.00 0.00 25.00 50.94 22.39 43.08 24.12 25.00 20.00 Or More
9 23.47 25.00 0.00 25.00 59.49 22.40 40.09 25.28 25.00 20.00 Or More
10 24.05 25.00 0.00 25.00 61.26 24.05 46.29 25.28 25.00 20.00 Or More
11 24.17 25.00 0.00 25.00 26.94 24.17 50.06 24.71 25.00 20.00 Or More
12 23.73 25.00 0.00 25.00 26.85 23.73 45.69 26.09 25.00 20.00 Or More
13 23.30 25.00 0.00 25.00 35.01 23.19 46.22 25.39 25.00 20.00 Or More
14 21.26 25.00 0.00 25.00 51.60 20.62 42.48 25.39 25.00 20.00 Or More
15 22.37 25.00 0.00 25.00 56.34 21.99 44.09 24.04 25.00 20.00 Or More
16 22.53 25.00 0.00 25.00 53.21 22.05 40.71 24.19 25.00 20.00 Or More
17 22.75 25.00 0.00 25.00 28.80 21.40 42.38 23.75 25.00 20.00 Or More
18 23.80 25.00 0.00 25.00 48.05 23.58 40.24 25.05 25.00 20.00 Or More
19 24.75 25.00 0.00 25.00 38.89 24.05 34.85 26.81 25.00 20.00 Or More
20 24.98 25.00 0.00 25.00 38.48 24.93 37.47 26.37 25.00 20.00 Or More
21 24.07 25.00 0.00 25.00 31.43 23.64 31.10 25.47 25.00 20.00 Or More
22 21.12 25.00 0.00 25.00 40.56 21.07 43.59 23.98 25.00 20.00 Or More
23 19.83 12.00 0.00 25.00 43.24 17.75 31.24 21.01 25.00 20.00 Or More
24 17.06 12.00 0.00 25.00 41.08 15.27 33.41 19.29 25.00 20.00 Or More
Submit
Withdraw
Summary
Save
Refresh

Fig. 34

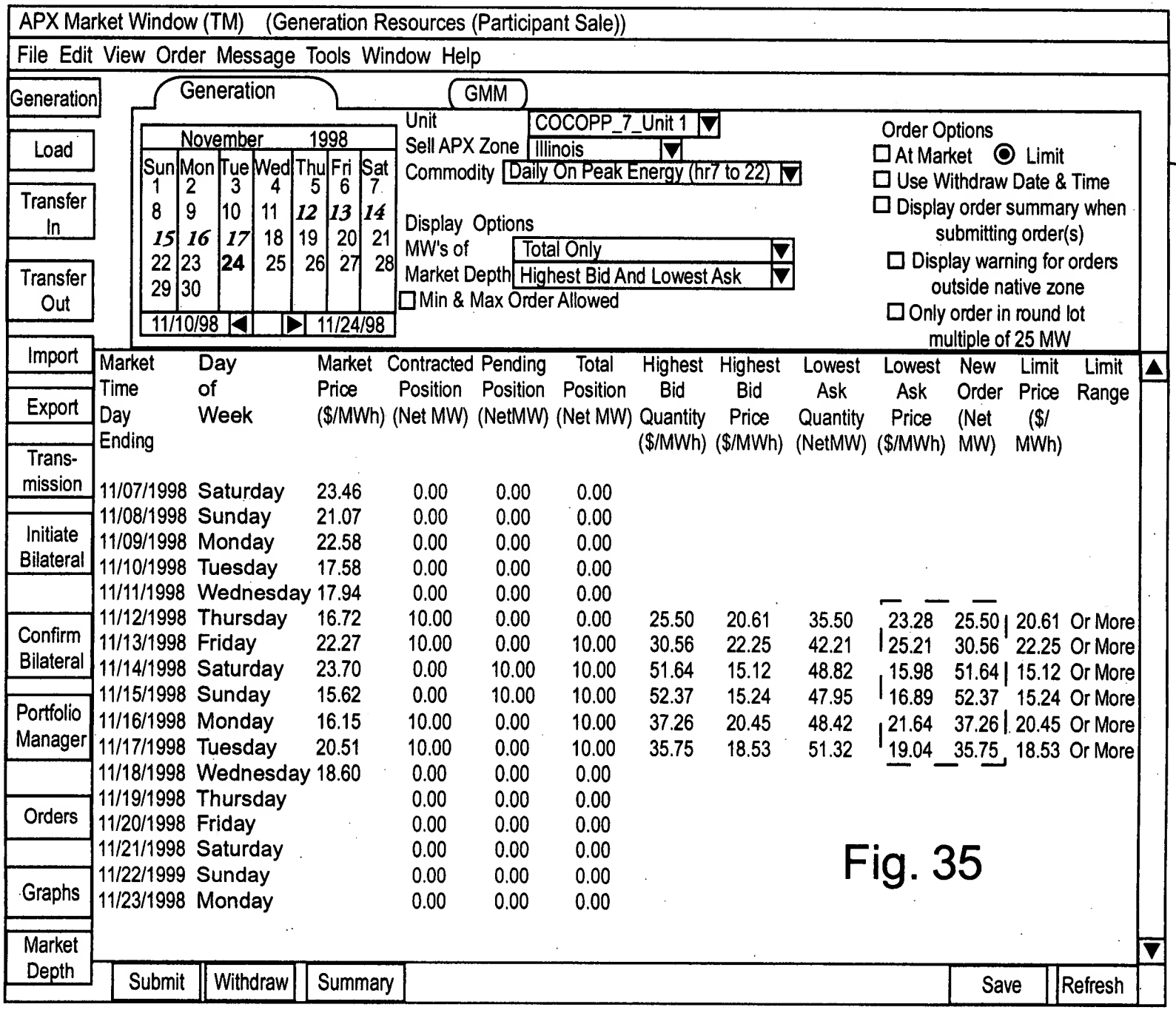
APX Market Window (TM) (Generation Resources (Participant Sale))
File Edit View Order Message Tools Window Help
Generation
Load
Transfer In
Transfer Out
Import
Export
Trans-mission
Initiate Bilateral
Confirm Bilateral
Portfolio Manager
Orders
Graphs
Market Depth
Generation
GMM
November 1998
Sun Mon Tue Wed Thu Fri Sat
1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30
11/10/98
11/24/98
Unit COCOPP_7_Unit 1
Sell APX Zone Illinois
Commodity Daily On Peak Energy (hr7 to 22)
Display Options
MW's of Total Only
Market Depth Highest Bid And Lowest Ask
Min & Max Order Allowed
Order Options
At Market
Limit
Use Withdraw Date & Time
Display order summary when submitting order(s)
Display warning for orders outside native zone
Only order in round lot multiple of 25 MW
4100
Market Time Day Ending
Day of Week
Market Price ($/MWh)
Contracted Position (Net MW)
Pending Position (NetMW)
Total Position (Net MW)
Highest Bid Quantity ($/MWh)
Highest Bid Price ($/MWh)
Lowest Ask Quantity (NetMW)
Lowest Ask Price ($/MWh)
New Order (Net MW)
Limit Price ($/MWh)
Limit Range
11/07/1998 Saturday 23.46 0.00 0.00 0.00
11/08/1998 Sunday 21.07 0.00 0.00 0.00
11/09/1998 Monday 22.58 0.00 0.00 0.00
11/10/1998 Tuesday 17.58 0.00 0.00 0.00
11/11/1998 Wednesday 17.94 0.00 0.00 0.00
11/12/1998 Thursday 16.72 10.00 0.00 0.00 25.50 20.61 35.50 23.28 25.50 20.61 Or More
11/13/1998 Friday 22.27 10.00 0.00 10.00 30.56 22.25 42.21 25.21 30.56 22.25 Or More
11/14/1998 Saturday 23.70 0.00 10.00 10.00 51.64 15.12 48.82 15.98 51.64 15.12 Or More
11/15/1998 Sunday 15.62 0.00 10.00 10.00 52.37 15.24 47.95 16.89 52.37 15.24 Or More
11/16/1998 Monday 16.15 10.00 0.00 10.00 37.26 20.45 48.42 21.64 37.26 20.45 Or More
11/17/1998 Tuesday 20.51 10.00 0.00 10.00 35.75 18.53 51.32 19.04 35.75 18.53 Or More
11/18/1998 Wednesday 18.60 0.00 0.00 0.00
11/19/1998 Thursday 0.00 0.00 0.00
11/20/1998 Friday 0.00 0.00 0.00
11/21/1998 Saturday 0.00 0.00 0.00
11/22/1999 Sunday 0.00 0.00 0.00
11/23/1998 Monday 0.00 0.00 0.00
Submit
Withdraw
Summary
Save
Refresh

Fig. 35

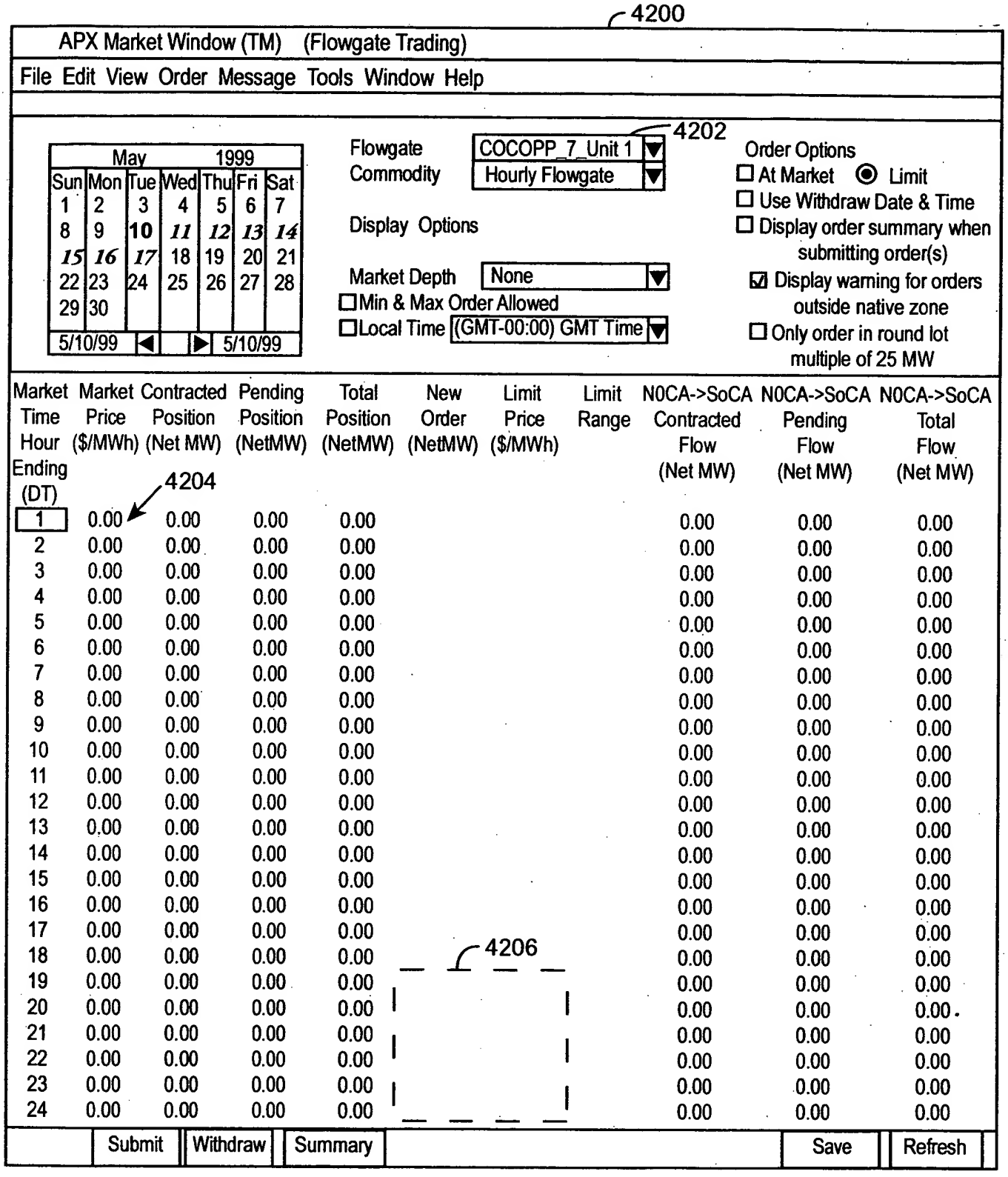
4200
APX Market Window (TM) (Flowgate Trading)
File Edit View Order Message Tools Window Help
May 1999
Sun Mon Tue Wed Thu Fri Sat
1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30
5/10/99
5/10/99
4202
Flowgate COCOPP_7_Unit 1
Commodity Hourly Flowgate
Display Options
Market Depth None
Min & Max Order Allowed
Local Time (GMT-00:00) GMT Time
Order Options
At Market Limit
Use Withdraw Date & Time
Display order summary when submitting order(s)
Display warning for orders outside native zone
Only order in round lot multiple of 25 MW
Market Time Hour Ending (DT)
Market Price ($/MWh)
Contracted Position (Net MW)
Pending Position (NetMW)
Total Position (NetMW)
New Order (NetMW)
Limit Price ($/MWh)
Limit Range
NOCA->SoCA Contracted Flow (Net MW)
NOCA->SoCA Pending Flow (Net MW)
NOCA->SoCA Total Flow (Net MW)
4204
4206
Submit
Withdraw
Summary
Save
Refresh

Fig. 36